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CLAIMS

*DJK*

1. A continuous wave ranging system, comprising an r.f. generator for generating an r.f. carrier wave, a modulator for modulating said r.f. carrier wave in accordance with a pseudo random code, a transmitting antenna for radiating a modulated signal from said modulator towards a target, a receiving antenna and receiver for detecting a signal reflected back from said target, a correlator for correlating said signal reflected back from the target with said pseudo random code which incorporates a selected phase shift corresponding to a current range gate to be tested, whereby the range of the target from the system may be determined, a store containing a plurality of different pseudo random codes, and selector means arranged to supply to the modulator and to the correlator a code from said store whose sidelobe characteristics are suitable for a next range gate to be tested.
2. A system as claimed in claim 1, wherein a plurality of codes are selected from the store and used in a sequence which substantially eliminates the effect of breakthrough sidelobes.

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~~3.~~ A system as claimed in claim 2, wherein said plurality of codes are selected on a basis of suitability for use in future envisaged ranges.

~~4.~~ A system as claimed in claim 3, wherein range is scanned increasingly, codes suitable for the longest ranges being selected.

~~5. A system as claimed in claim 3, wherein said plurality of codes is selected to reduce the number of code changes required when scanning different ranges.~~

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